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Patent

Attorney Docket No. 1034497-000120



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Is an Patent Application of

Robert Ganley

Application No.: 10/799,513

Filed: March 12, 2004

For: ABUTMENT WITH SHADE
MATCHED CUFF FOR TOOTH
IMPLANT (As Amended)

) **Mail Stop Appeal Brief**
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) Group Art Unit: 3732
)
) Examiner: Patrick J. Kilkenny
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) Confirmation No.: 2375
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) Appeal No. _____
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AMENDED APPEAL BRIEF

Mail Stop APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated August 2, 2006 finally rejecting claims 1-3, 7, 8, 12, 13 and 17-19.

Appellant acknowledges receipt of a Notice of Non-Compliant Appeal Brief dated May 23, 2007. In the Notice, it is asserted that Appellant's Brief filed April 2, 2007, fails to comply with 37 C.F.R. §41.37(c)(1)(iii) in that it fails to identify the status of all of the claims, and/or does not identify the appealed claims. This assertion is respectfully traversed. Appellant's Brief of April 2, 2007 stated on the first page thereof that claims 1-3, 7, 8, 12, 13 and 17-19 were rejected and on appeal, and Claims Appendix -1 clearly indicates that claims 4-6, 9-11 and 14-16 have been canceled.

This Amended Brief contains a revised Section III., which collects and summarizes the information previously provided in the Brief filed April 2, 2007 concerning that status of the claims.

Appellant has already paid the fee required pursuant to 37 CFR §41.20(b)(2). However, the Commissioner is hereby authorized to charge any appropriate fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

I. Real Party in Interest

Ivoclar Vivadent, Inc. is the real party in interest, and is the assignee of Application No. 10/799,513. Ivoclar Vivadent, Inc. is a subsidiary of Ivoclar Vivadent AG.

II. Related Appeals and Interferences

The Appellant's legal representative, or assignee, does not know of any other appeals or interferences which will affect or be directly affected by or have bearing on the Board's decision in the pending appeal.

III. Status of Claims

Pending, Rejected and Appealed: Claims 1-3, 7, 8, 12, 13, and 17-19.

Canceled: Claims 4-6, 9-11 and 14-16.

IV. Status of Amendments

All amendments in this application have been entered. There have been no amendments filed subsequent to the Final Rejection of August 2, 2006.

V. Summary of Claimed Subject Matter

The present invention is directed to an improved abutment for a dental prosthesis, and related restoration systems and methods.

The subject matter of each independent claim on appeal (claims 1, 7 and 12) is cross-referenced to the specification and/or drawing figures in the following table.

Claim	Disclosure
1. An implant abutment for attaching a ceramic dental prosthesis within a patient's mouth, comprising:	Paragraphs [0014], [0015] and [0023]; Figure 3 (102,104)
a core; and	Paragraphs [0023] and [0024]; Figure 3 (120)
a ceramic cuff surrounding the core, wherein the cuff is colored to match the color of the dental prosthesis.	Paragraphs [0015], [0025] and [0028]-[0030]; Figure 3 (102, 140)

7. A dental implant restoration system comprising:	Paragraphs [0016] and [0021]; Figure 3 (100)
an implant fixed within a patient's jaw;	Paragraph [0022]; Figure 3 (106)
an abutment having a core and a ceramic cuff surrounding the core, fixed to the implant; and	Paragraphs [0015], [0016], and [0023]-[0025]; Figure 3 (104, 120, 140, 106)
a ceramic dental prosthesis fixed to the abutment, wherein the abutment cuff is colored to match the color of the dental prosthesis.	Paragraphs [0015], [0016], and [0027]-[0030]; Figure 3 (140, 102)
12. A method for fabricating a dental implant restoration comprising:	Paragraph [0017]
fixing an implant within the jawbone of a patient;	Paragraphs [0017] and [0037]
fixing an abutment having a core and a ceramic cuff surrounding the core, to the implant; and	Paragraphs [0015], [0017], and [0023]-[0025]; Figure 3 (104, 120, 140, 106)
fixing a ceramic dental prosthesis to the abutment, wherein the abutment cuff is colored to match the color of the dental prosthesis.	Paragraphs [0015], [0017], [0027]-[0030] and [0037]; Figure 3 (140, 102)

Portions of the specification and/or drawings have been identified above in order to comply with the requirements of 37 C.F.R. §41.37(c)(1)(v). The above references to the specification and drawings should not be construed as limiting the scope of the claimed subject matter to the various embodiments described in the specification and drawings, or otherwise improperly utilized as a vehicle for importing limitations into the claims from the disclosure. In addition, the above references should not be construed as a representation that these are the sole bases for support of the subject matter recited in the independent claims on appeal.

VI. Grounds of Rejection to be Reviewed on Appeal

Whether claims 1-3 and 17 are anticipated under 35 U.S.C. §102(b) by U.S. Patent No. 5,989,026 to Rodgers et al. (hereafter "Rodgers et al.").

Whether claim 1 is obvious under 35 U.S.C. §103(a) in view of Rodgers.

Whether claims 7, 8, 12, 13, 18 and 19 are obvious under 35 U.S.C. §103(a) in view of the combined teachings of Rodgers et al. and U.S. Patent No. 6,309,568 to Hinds (hereafter "Hinds").

VII. Argument

A. Rejection under 35 U.S.C. §102(b) - Rodgers

1. Claims 1-3 and 17

The present invention is directed to an improved abutment for a dental prosthesis, and related restoration systems and methods. As discussed, for example, in paragraph [0009] of the present specification, restoration systems are available which are composed of a metallic core, and an outer section or cuff made from a ceramic. However, as discussed for example in paragraph [0013] of the specification, such conventional abutments are typically available in one standard color chosen by the manufacturer without any consideration given to the color of the attached dental prosthesis. Thus, a match between the color of the cuff and the attached prosthesis is not achieved.

An additional complication of the prior art arrangement is discussed in paragraphs [0011]-[0012]. Namely, the color of the ceramic cuff and the color of the attached prosthesis, when not matched, combine to create the color of the final restoration. Thus, the technician must exercise a high degree of skill and take into consideration the color of the underlying ceramic cuff in order to produce a restoration having the desired final coloration.

An abutment formed according to the principles of the present invention is defined by claim 1:

*1. An implant abutment for attaching a ceramic dental prosthesis within a patient's mouth, comprising:
a core; and
a ceramic cuff surrounding the core, wherein the cuff is colored to match the color of the dental prosthesis.*

The abutment of the present invention, as well as related restoration systems and methods, possess at least the following advantages over conventional abutments, restoration systems and methods:

- The abutment includes a cuff matching the color chosen for the prosthesis. Therefore, the interface between the abutment and the restoration is aesthetically enhanced and visually less detectable. In contrast, in accordance with the prior art, the color of the restoration was determined by the combination of the colors of the

abutment and the prosthesis. Typically, the technician creating the restoration would obtain a standard abutment and then determine a color for the prosthesis that, when combined with the color of the abutment, would result in the desired color for the final restoration. This procedure requires a high degree of skill from the technician;

- By utilizing an abutment having the same color as the prosthesis, the final restoration has a greater depth, providing a much more natural appearance. Just as the "stump" of a damaged tooth provides a natural-colored framework for the reconstruction of the tooth, the abutment of the present invention provides a natural-colored framework for the fabrication of a prosthesis; and

- In some instances, the restoration may include a layer of dental cement between the abutment and the prosthesis. Prior to the present invention, the practitioner would choose a cement having a color that would properly combine with the colors of the abutment and the prosthesis, to obtain the desired color for the final restoration. With the present invention, however, because the abutment matches the color of the prosthesis, no additional determinations are required, and a clear cement may be used.

See paragraphs [0034]-[0036] of the present specification for a discussion of these advantages.

A claim is properly rejected as anticipated only if each and every element of the claim is found in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Moreover, the claim elements in the prior art must be arranged in the same manner as required by the claim. *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Rogers et al. is directed to a ceramic two-piece dental abutment of the type discussed above in paragraph [0009] of the present specification. Namely, Rogers et al. discloses an arrangement comprising a tubular metallic core surrounded by a ceramic outer portion. However, Rodgers et al. is entirely devoid of any disclosure whatsoever regarding the ceramic outer portion being provided with a coloration that matches a dental prosthesis. Instead, the teachings of is entirely consistent with the discussion contained in the Background section of the present specification.

Namely, as discussed in Rodgers:

The outer portion, which can be aluminum oxide, is a lighter color than the typical titanium metal used for abutments. Thus, by using the lighter colored ceramic, the gingival tissue remains closer to its natural color than when the darker titanium is used. [column 2, lines 20-24]

Thus, Rogers et al. teaches shielding the shadow created by the metallic core via the alumina ceramic cuff, as is discussed on lines 9-10 of the paragraph [0009] of the present specification. As such, the arrangement taught by Rogers et al. suffers from the same disadvantages as similar prior art arrangements in that the cuff is not colored in a manner to match the color of the attached prosthesis. As discussed in paragraphs [0011]-[0012] of the present specification, the divergent coloration of the ceramic cuff will influence the overall final coloration of the implant. Namely, the attached prosthesis, when made from a ceramic, will have an inherent translucency. The coloration of the ceramic cuff portion thus will have a visible effect on the final overall coloration of the implant. This necessitates the exercise of a relatively high degree of skill by a technician to take into consideration the underlying divergent color of the ceramic cuff and its effects when combined with the coloration of the attached prosthesis.

Rogers et al. clearly fails to anticipate the implant abutment of claim 1.

In paragraph 3 of the Final Rejection, with regard to the interpretation of claim 1, it is asserted that:

... the intended use in conjunction with a ceramic dental prosthesis as recited in the preamble of the claim is given no patentable weight.

Although the above-quoted statement evidences that a certain portion of the preamble has been ignored, there is no explanation given as to the interpretation of the following portion of claim 1, which does not appear in the preamble

... wherein the cuff is colored to match the color of the dental prosthesis.

Such "wherein" clauses cannot simply be dismissed as a convenience when the prior art is lacking with respect one or more elements of the claim. The Federal Circuit has taken a similar view finding that when a similar "whereby" clause states a

condition that is material to patentability, it cannot be ignored. *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005).

Yet the grounds for rejection clearly rely upon just such an improper disregard of the limitations of claim 1.

It is further alleged in paragraph 3 of the Final Rejection that:

Also regarding claim 1, the color matching of the cuff is inferentially claimed as an infinite number of prosthesis teeth satisfy the claim. As such, the abutment of Rogers et al. satisfies the claimed structural limitations.

Appellant does not understand what is intended by the phrase "inferentially claimed." Appellant has previously requested clarification of this interpretation of claim 1 (see Request for Reconsideration filed January 26, 2007; pg. 5), to no avail. Appellant again respectfully requests clarification, and further requests citation of legal authority in support of the above-referenced portion of the grounds for rejection.

It is respectfully submitted that a color-matched abutment cuff is not "inferentially claimed" by the present application, but rather is explicitly recited and contained in the claim 1.

Appellant also disagrees with the assertion of that "an infinite number of prosthesis teeth satisfy the claim."

An exemplary color-matching or shade-matching technique is described at http://www.vident.com/product_t3.php?id_pages=99. Basically, according to this exemplary technique, a set of predetermined standard tooth colors are compared with the existing natural tooth color of the patient, and the standard color that most closely matches the natural tooth color is chosen for the prosthesis. The number of predetermined standard tooth colors in a shade-matching set can vary, but a typical number is on the order of 26 to 52 different possible tooth color selections. According to the present invention, the color of the cuff is then matched to the same color of the prosthesis, as selected from the shade guide. Thus, the number of possible shades to which the prosthesis can be matched is finite, not "infinite."

The Patent Office has not denied the fact that Rodgers et al. does not teach a ceramic cuff of an abutment that is color-matched to a dental prosthesis as required

by claim 1. Thus, it is clear that when properly interpreted, Rodgers et al. fails to anticipate claim 1. The rejection must be reversed.

Claims 2, 3 and 17 depend from claim 1. Thus, these claims are also novel with respect to Rogers for lease the same reasons noted above.

B. Rejection under 35 U.S.C. §103(a) - Rogers

1. Claim 1

The grounds for rejection recited in paragraph 5 of the Final Rejection rest solely upon an unsupported, factually inaccurate assertion regarding the differences between Rogers et al. and claim 1:

... as it is well known and readily practiced in the art of dental prosthetics to choose cuffs and prosthetics which match the overall color to provide a more aesthetically pleasing overall appearance of the restoration site. (emphasis added)

First, it is irrelevant to the obviousness analysis what "is" well-known, or not. Rather, the relevant time frame is when the invention was made. Thus, the grounds for rejection clearly fail to establish a *prima facie* case of obviousness for this reason alone.

Second, for the reasons explained in MPEP §2144.03, the grounds for rejection are clearly improper:

It is never appropriate to rely solely "common knowledge" in the art without evidentiary support in the record, as the principle evidence upon which a rejection was based. *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 ("[T]he Board cannot simply reach conclusions based on its own understanding or experience - or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.

Appellant specifically challenged the bald assertion that it is well-known and readily practiced in the art to match the color of a cuff with an attached dental prosthesis (See Request for Reconsideration filed January 26, 2007; pg. 8).

This request for some form of supporting evidence has thus far been improperly ignored: "If applicant adequately traverses the Examiner's assertion of

official notice, the Examiner must provide documentary evidence in the next Office Action if the rejection is to be maintained." *MPEP* §2144.03.

Appellant again challenges the above-quoted assertion. It is Appellant's understanding and belief that the opposite is true. Namely, that at the time the invention was made, the common practice in the art is for manufacturers to provide cuffs having one standard color, which is not matched to the color of the prosthesis. See, paragraph [0013] of the present specification.

The grounds for rejection clearly fail to establish a *prima facie* case of obviousness for at least the reasons note above, and must be reversed.

C. Rejection Under 35 U.S.C. §103(a) - Rogers in view of Hinds

1. Claims 7, 8, 12, 13, 18 and 19

Independent claim 7 is directed to a dental implant restoration system formed according to the principles of the present invention:

*7. A dental implant restoration system comprising:
an implant fixed within a patient's jaw;
an abutment having a core and a ceramic cuff
surrounding the core, fixed to the implant; and
a ceramic dental prosthesis fixed to the abutment,
wherein the abutment cuff is colored to match the color of
the dental prosthesis. (emphasis added)*

Similarly, the method performed according to the present invention is set forth in claim 12:

12. A method for fabricating a dental implant restoration comprising: fixing an implant within the jawbone of a patient; fixing an abutment having a core and a ceramic cuff surrounding the core, to the implant; and fixing a ceramic dental prosthesis to the abutment, wherein the abutment cuff is colored to match the color of the dental prosthesis. (emphasis added)

The improper claim interpretation of the Final Rejection is repeated in the Advisory Action of March 8, 2007:

The applicant's arguments regarding the lack of obviousness regarding the matching of colors of the abutment and the prosthesis are irrelevant. As mentioned in the office action, the dental prosthesis is not positively recited, so is given no patentable weight. Therefore, matching the ceramic cuff by color is irrelevant. Furthermore, even if

the prosthesis had been properly recited, the color matching is inferentially claimed as an infinite number of prosthetic teeth would satisfy the claim. (emphasis added)

As evident from the underlined portions of claims 7 and 12, the dental prosthesis is positively recited.

For at least the reasons explained above, the color matching feature is not "inferentially claimed," to the extent that something which can be characterized as "inferentially claimed" can be ignored. To the contrary, as readily apparent from the underlined portions of claims 7 and 12, the color matching feature of the present invention is explicitly recited. Moreover, the claims do not read on an infinite number of prosthetic teeth for at least the reasons explained *supra*.

Hinds is applied as allegedly teaching a ceramic prosthesis (80) used in conjunction with a dental implant and abutment system. The grounds for rejection do not assert that Hinds contains any teaching whatsoever with regard to the coloration of the cuff of a dental abutment system. In fact, it is explicitly stated in paragraph 6 of the Final Rejection that the rejection of claims 7 and 12 rest upon the same assertions concerning the teachings of Rogers et al. as the anticipation and obviousness rejections of claim 1. Specifically, it is asserted in paragraph 6 of the Official Action that:

Regarding claims 7 and 12, the color matching of the cuff is inferentially claimed as an infinite number of prosthesis teeth satisfy the claim. As such, the abutment of Rogers et al. satisfies the claimed structural limitations.

Again, as with the anticipation rejection of claim 1, which rests upon the same assertion, applicant traverses the grounds for rejection of claims 7 and 12 for at least the same reasons previously noted above in connection with the anticipation rejection of claim 1.

It is further asserted in paragraph 6 of the Official Action:

. . . it would have been obvious to one ordinary skill in the art at the time the invention was made to color match the cuff to the color of the dental prosthesis as it is well known and readily practiced in the art of dental prosthesis to chose cuffs and prosthetics which match an overall color to provide a more aesthetically pleasing overall appearance of the restoration site.

Again, the same grounds for rejection have been applied to the obviousness rejection of claim 1. As explained above, the grounds for rejection fail to even allege that it was know to " to chose cuffs and prosthetics which match an overall color" at the time the invention was made.

Appellant specifically challenges the assertion that it was well-known and readily-practiced in the art at the time the invention was made to chose cuffs and prosthetics which match an overall color.

For at least the reasons noted above, the rejection is improper and must be reversed.

Claims 8, 13, 18 and 19 depend from either claims 7 or 12. Thus, these claims are also nonobvious over the proposed combination of Rodgers et al and Hinds for at least the same reasons noted above in connection with the rejection of claims 7 and 12.

VIII. Claims Appendix

See attached Claims Appendix for a copy of the claims involved in the appeal.

IX. Evidence Appendix

None.

X. Related Proceedings Appendix.

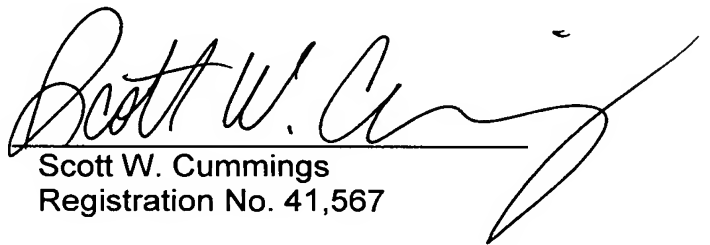
None.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

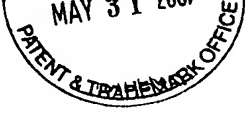
Date May 31, 2007

By:

A handwritten signature in black ink, appearing to read "Scott W. Cummings", written over a horizontal line.

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VIII. CLAIMS APPENDIX

The Appealed Claims

1. An implant abutment for attaching a ceramic dental prosthesis within a patient's mouth, comprising:
a core; and
a ceramic cuff surrounding the core, wherein the cuff is colored to match the color of the dental prosthesis.
2. The product of claim 1, wherein the core is formed of a metallic material.
3. The product of claim 2, wherein the metallic material is titanium or a titanium alloy.
4. - 6. (Canceled)
7. A dental implant restoration system comprising:
an implant fixed within a patient's jaw;
an abutment having a core and a ceramic cuff surrounding the core, fixed to the implant; and
a ceramic dental prosthesis fixed to the abutment, wherein the abutment cuff is colored to match the color of the dental prosthesis.
8. The system of claim 7, wherein the abutment core is formed of a metallic material.
9. - 11. (Canceled)
12. A method for fabricating a dental implant restoration comprising: fixing an implant within the jawbone of a patient; fixing an abutment having a core and a ceramic cuff surrounding the core, to the implant; and fixing a ceramic dental prosthesis to the abutment, wherein the abutment cuff is colored to match the color of the dental prosthesis.



13. The method according to claim 12, wherein the abutment core is formed of a metallic material.

14. - 16. (Canceled)

17. The product of claim 1, wherein the abutment comprises no more than two pieces.

18. The system of claim 7, wherein the abutment comprises no more than two pieces.

19. The method of claim 12, wherein the abutment comprises no more than two pieces.

IX. EVIDENCE APPENDIX

NONE

X. RELATED PROCEEDINGS APPENDIX

NONE